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ABSTRACT

A content validity study of the National Teacher Examination (NTE) was conducted by Educational Testing Service for the Mississippi State Board of Education. Its purposes were: (1) to assess the NTE's appropriateness as a measure of knowledge acquired through teacher preparation programs and required as a qualification to teach in Mississippi; and (2) to develop information to assist state officials in establishing rational decision rules for evaluating candidates' NTE scores for initial certification. Utilizing a jury judgment method, two types of panels made up of carefully selected, experienced Mississippi educators, were established. Content review panels concluded that the NTE is a fair measure of the knowledge objectives of Mississippi teacher training programs: four area specialty tests are very closely related; the core battery and 17 area specialty tests are closely related. Based on the knowledge estimation panels' judgments a score representing the minimum level of academic knowledge necessary for completing teacher training programs and teaching effectively in Mississippi can be set for each of the subject areas covered by the NTE. The State Board of Education has set minimal qualifying scores as part of the certification process based on the scores identified by the Study. (BS)

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VALIDATION STUDY OF THE NTE FOR CERTIFICATION OF ENTRY LEVEL TEACHERS IN THE STATE OF MISSISSIPPI

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A Study of the Use of the National
Teacher Examinations by the State of Mississippi

INTRODUCTION:

Section 37-19-5 of the Codes of Mississippi enacted in 1972 requires an applicant applying for the first time for a Standard Professional Certificate to furnish the Office of Teacher Certification scores achieved on the Commons and Teaching Area of the National Teacher Examinations (NTE), the verbal and quantitative sections of the Graduate Record Examination (GRE) or other examination of achievement. The Legislature in 1975 amended this section to require "The State Board of Education is directed to establish a minimum score on the NTE...as a requirement for initial certification."

The State Board of Education in compliance with the 1975 Legislative mandate, after considerable negotiations, discussions, and numerous consultations, using actual NTE scores of candidates collected over a three year period, established a minimum score on the NTE for initial certification. The effective date for minimum scores was July 1, 1975. For those applicants who were seeking certification in a teaching field in which a speciality area of the NTE existed, the composite minimum score was established as 850 and a minimum Commons score of 405 was established for those applicants who sought certification in a teaching area where there was not a speciality area exam of the NTE. Also, the State Board of Education agreed to review the established "cut scores" annually.

Early in 1977 the State Board of Education consulted with

the Educational Testing Service regarding whether a professional study of the use of the NTE in Mississippi could be undertaken. A response from the Educational Testing Service indicated that a content validity study could be conducted by ETS during the months of November 1978 through June 1979 and later during the months of November 1982 through June 1983 could provide the requested data. The CCRE Battery and several area speciality exams were validated during the 1982-83 study.

PURPOSE:

The study had two specific purposes: (1) to assess the appropriateness of the NTE as measures of knowledge acquired through teacher preparation programs and required as a qualification to teach in Mississippi; and (2) to develop information that State officials can consider in establishing rational decision rules for evaluating the NTE scores of candidates for initial certification as teachers. To achieve these purposes the study was designed to address both (1) the relationship between the content of the test and the content of teacher training programs within the state and (2) the level of performance on the NTE that might be expected of a candidate who is judged to have the minimum amount of knowledge necessary to complete an academic program in teacher education in Mississippi and to teach effectively in the schools of Mississippi.

DESIGN:

The basic design for this study utilized a jury judgment

approach. Through this method, judgments were systematically obtained, recorded, and analyzed for a large number of educators with extensive teaching experience in Mississippi. The educators who participated in the study were grouped into panels or juries to consider specific parts of the overall comparisons and assessments required by the design.

The judges participating in the study were nominated by 15 of the 16 colleges and universities in Mississippi that prepare teachers, in accordance with a list prepared by ETS of the kind and number of nominees needed from each collegiate institution. Of 1,231 nominees, a total of 878 faculty members were assigned to the various panels, and a total of 607 faculty from the 15 institutions actually participated in making the judgments. Faculty were assigned to panels by taking into account such factors as: equitable representation of predominantly black, fully integrated, and predominantly white institutions, appropriate coverage by panel members of the subject matter topics covered by the tests, and institutional size as reflected by the number of graduates in teacher education.

Two types of panels were established. The Content Review Panels evaluated the congruence between the content of the NTE and the curriculum prescribed for teacher education programs in the State. The Knowledge Estimation Panels estimated the percentage of minimally knowledgeable candidates for initial certification in Mississippi who would be expected to know the answer to each specific question on the NTE.

The Content Review Panels were asked to make several judgments about the congruence of the NTE test they were reviewing and the curriculum in teacher training programs in Mississippi. The questions on the tests were regarded as "content appropriate" if more than half the judges indicated that at least 90% of the students taking the test would have had an opportunity to learn the answer as part of their teacher education program or in courses prerequisite to entering it. Judges were asked to indicate on the basis of a review of the major content topics of the test whether the precentage of the test devoted to the topic in the curriculum was about the same as, or more than, or less than the emphasis in the test in order to compare the relative emphasis of topics in the tests and in the curricula. As an additional means of assessing the overall similarity between tests and curriculum, judges were also asked to indicate which of four characterizations of greater or lesser similarity between the test and the curriculum applied. As a measure of the comprehensiveness of the tests, judges were asked to indicate which, if any, major content topics in the teacher education sequence were not included among the test content topics.

The task of the Knowledge Estimation Panels was to estimate the percentage of minimally knowledgeable students who would know the answer to each individual test question. Based on their experience, members of the Knowledge Estimation Panels were individually required to hypothesize the existence of a group of

persons whom they would judge to have both the minimum amount of academic knowledge needed to complete the teacher education program required for certification in Mississippi and the minimum amount of knowledge to teach effectively. Second, these panel members were asked to estimate the percentage of this hypothetical group who would know the correct answer to a particular question (without taking into account the possibility that some additional students might pick the correct answer purely as a lucky guess). The estimates made by the individual judges were combined statistically, and these combined estimates were then analyzed to generate scaled scores that reflect for each test the level that would be acheived by a minimally knowledgeable candidate as judged by the panels.

Analyses of the consistency of the judgments made by each type of panel were performed, where possible, by comparing the ratings given by half panels and the ratings of two editions of each of the tests, where available.

RESULTS:

The major findings with respect to the content review of the NTE in relation to the teacher education curriculum in Mississippi were as follows:

1. In the CORE Battery Examinations as a whole, 94% of the questions were classified as content appropriate. In 19 of the 21 Area Examinations studied, at least 85% of the questions were classified as content appropriate.

2. Almost four-fifths of the judges named no major content area in the curriculum that does not appear in the descriptions of test content. Seventeen topics, with respect to ten tests, were mentioned by more than one judge apiece.

3. Judged differences in the relative emphasis placed on specified topics in the tests and the teacher training curriculum were summarized by an index with values ranging from 0 (representing identity of relative emphasis) to 100 (representing maximum possible divergence). The value of the index was 21 for the entire set of CORE Battery Examinations and below 40 for all but one of the Area Examinations.

4. Overall, 71% of the judges reported either close parallelism or no appreciable differences between the content of the tests and the teacher education sequence. Such an evaluation was submitted by at least half the judges for 20 of the 21 Area Examinations and by a weighted average of 87% of the judges for the CORE Battery Examinations.

5. A comparison of three of the indicators of the relation between the tests and the teacher education programs showed that the variations with respect to specific tests were generally consistent in direction. Analysis of the results for agreement between test editions and between half panels demonstrated a relatively high level of consistency.

The results of the knowledge estimation process can be described in summary fashion as follows:

1. Scores of 652 - CS, 647 - GK, 650 - PK on the CORE

Battery Examinations were judged by the panel members to be the level that would be achieved by a minimally knowledgeable candidate.

2. Scores ranging from a low of 522 (Audiology) to a high of 680 (Mathematics) were judged by the panel members to be the level that would be achieved on the various Area Examinations by a minimally knowledgeable candidate.

3. The judgments obtained for test editions and half panels were generally consistent.

ESTABLISHING MINIMUM SCORE FOR INITIAL CERTIFICATION IN MISSISSIPPI

Four open meetings were held for the purpose of receiving statements from the public relative to establishing NTE minimum scores. Each person who attended was invited to speak or to provide a written statement. The record was kept open for ten days following each meeting for the purpose of receiving additional testimony.

The recommended minimum scores were suggested to be established in the following method: scores were to be increased from the 850 (set in 1975) composite score to a score representing three standard errors of measurement below the scores established by the study in three equal increments. The first increase was recommended to be effective July 1, 1981, the second increase to become effective July 1, 1983, and the third increase (to a score representing three standard errors of measure below the scores established by the study) to become

effective July 1, 1985. The State Board of Education established the minimum scores to become effective April 1, 1983, as those recommended for the July 1, 1981 date. In 1983, the State Board of Education established minimum scores for the CORE Battery at the levels determined by the same process described earlier--the scores were to become effective August 29, 1983. (With special permission from ETS, Mississippi had administered the "old" Commons in April 1983 for certification of spring graduates from Institutions of Higher Education in the State. A special administration of the CORE Battery and Speciality Area Examinations was conducted during August 18-19, 1983, for certification purposes.) With the Education Reform Act of 1982 being implemented in 1985-1986, it is very probable that no changes in NTE requirements will occur until new regulations/policies are implemented.

CONCLUSIONS:

The NTE are a battery of examinations carefully designed by representative committees of educators to reflect the important commonalities among the teacher education programs throughout the nation. The tests are all developed to national test specifications, not to local or state specifications. Despite their national orientation, the content of nearly all the tests in the NTE was judged to be sufficiently congruent with the content of teacher training programs in Mississippi to support the conclusion that the NTE are a fair measure of the knowledge

sought to be imparted by those programs. Based on the findings of the study, the relationships of specific tests to the teacher training curriculum in Mississippi can be described as follows:

Four Area Speciality Tests are very closely related.

The CORE Battery and 17 Area Speciality Tests are closely related.

Based on the judgments of the Knowledge Estimation Panels, a score representing the minimum level of academic knowledge that should be necessary for completing teacher training programs and teaching effectively in Mississippi can be set for each of the subject areas covered by the NTE examinations. In setting a minimal qualifying score as part of the initial certification process, the State adjusted the scores identified by the study by reference to other considerations arising from the measurement process and by reference to other legitimate education objectives also discussed in the report.